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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/814,099	03/22/2001	Masanori Ikari	010270	2044

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EXAMINER	
NGUYEN, THU V	

ART UNIT	PAPER NUMBER
3661	

DATE MAILED: 10/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/814,099	IKARI, MASANORI	
	Examiner	Art Unit	
	Thu Nguyen	3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 August 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) *4-10* is/are withdrawn from consideration.

5)☒ Claim(s) *2,3,12 and 13* is/are allowed.

6)☒ Claim(s) *1 and 11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☒ The proposed drawing correction filed on *22 August 2002* is: a)☒ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *8* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinugawa et al (U.S Patent No. 5,999,872).

As per claim 1, Kinugawa discloses a working unit control apparatus of an excavating and loading machine which comprises: a boom cylinder 4 (fig.1)(col.17, line 18); a boom control valve 11 (fig.1) (col.17, line 30); a boom lever 17 (fig.1) (col.17, line 50); a boom lever operating amount detector 25 (fig.1) (col.18, lines 4-5); a bucket cylinder 6 (fig.1) (col.17, line 20); a bucket control valve 12 (fig.1) (col.17, lines 31-32); a bucket lever 18 (fig.1) (col.17, lines 50-51); a bucket lever operating amount detector 26 (fig.1) (col.18, line 5); an excavating state detecting means for detecting an excavating state of the vehicle (col.14, lines 27-33); a load judging portion for judging whether the vehicle is under excavation (col.14, lines 34-37; col.30, lines 44-51); and an automatic excavation control means that sets and outputs an automatic

command value to each of the control valves on the basis of the load judgement portion (col.25, lines 54-59; col.31, lines 2-7; col.36, lines 40-46).

Kinugawa does not explicitly teach that the automatic excavation control means judges an automatic excavation start when the boom level is operated and the vehicle is judged to be under excavation. However, Kinugawa teaches judging automatic excavation condition based on the operation of the boom lever and the operating amount of the levers (col.30, lines 34-55). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to determine excavation start condition by continuously monitoring the boom lever changes in the result of the load judging portion of Kinugawa to determine the excavation start condition when the boom lever changes by a predetermine threshold value in order to provide appropriate control to the control valves of the boom and bucket in time.

Kinugawa does not explicitly disclose a controller for outputting a boom control command value and bucket control command value on the basis of data from the boom and bucket lever operating amount detector, and an automatic excavation control means for setting and outputting an automatic excavation command value to each of the control valve. However, Kinugawa teaches a hydraulic pump control section that set the boom and bucket command value (col.23, lines 43-54). t would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate pump control function to the controller of Kinugawa in order to simplify the structure of the control section by including the pump controller to the controller 10 of Kinugawa.

As per claim 11, refer to discussion in claim 1 above. Further, Kinugawa teaches an operating amount change judging portion for judging that the boom lever operating amount changes to a zero amount (the neutral position) from a predetermined operating amount (col.35, lines 21-34).

Allowable Subject Matter

3. Claims 2-3, 12-13 are allowed.

4. The following is an examiner's statement of reasons for allowance:

Prior art of record does not disclose a working unit control apparatus of an excavating and loading machine set forth in the independent claims 1 and 13, in combination with either claim 2, 12 or 3, 13 respectively. Specifically, prior art of record does not teach the excavating machine of claim 1 or 13 having an excavating state detecting means that is constituted by a vehicle speed detector and engine rotational speed detector, and a load judging portion the judges that the vehicle is under excavation when the vehicle speed is equal to or less than a value shown by a predetermined curve relating to the engine rotational speed. Further, prior art of record does not disclose an excavating machine of claim 1 or 13 having an excavating state detecting means that is constituted by an accelerator pedal operating amount detector that detects an accelerator pedal operating amount, and an engine rotational speed detector that detects an engine rotational speed; and a load judging portion that judges that the vehicle is under excavation when the accelerator

pedal operating amount is equal to or more than a predetermined operating amount and the engine rotational speed is equal to or less than a predetermined rotational speed.

Response to Arguments

5. Applicant's arguments filed August 22, 2002 have been fully considered but they are not persuasive.

In response to applicant's argument on page 15, last 5 lines, Kinugawa teaches the load judging portion (the classification in Kinugawa) that judges whether the vehicle is under the excavation (col.24, lines 34-42; col.30, lines 44-51). Kinugawa also teaches that controller 10 (fig.2A) includes setting sections 51-54 (fig.2B) for setting control values to control the motion of the boom and the bucket (col.23, lines 1-11) and the hydraulic control section 55 (fig.2B) that control the valves of the boom and bucket (col.23, lines 43-53), since the values set to control the valves is set by the settings section 51-54 (fig.2B), the control of the boom and bucket is automatic. The values set by the setting sections 51-54 (fig.2B) is clearly depend on the load judging portion that judges that the vehicle is under excavation as taught in col.23, lines 1-4.

In response to applicant's argument on page 16, on claim 11, refer to the explanation on claim 1 above for the load judging portion and the automatic excavation commands outputted to the control valves. In col.35, lines 18-21, Kinugawa clearly teaches the operating amount change judging portion that judges that the boom lever operating amount changes from a predetermined operating amount to a zero amount (the neutral position), this judging portion affects the control

of the engine speed (col.35, lines 26-29), since changes in the engine speed effect the change of pressure to the hydraulic pumps (col.22, lines 37-50), and since the change of pressure to the hydraulic pumps is effected by the valves 23, and 24 (fig.2A) (col.23, lines 43-54), Kinugawa obviously teaches controlling the valves through the control of the engine speed when the boom lever changes from a predetermined amount to the neutral (the zero) position.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any response to this final action should be mailed to:

Box AF

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 305-7687, (for formal communications; please mark "EXPEDITED PROCEDURE")

Or:

(703) 305-7687 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park V, 2451 Crystal Drive, Arlington. VA., Seventh Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Nguyen whose telephone number is (703) 306-9130. The examiner can normally be reached on Monday-Thursday from 8:00 am to 6:00 pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Cuchlinski, can be reached on (703) 308-3873. The fax phone number for this Group is (703)305-7687 .

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)308-1113.

Nguyen Lee

THU V. NGUYEN
PRIMARY EXAMINER

October 20, 2003